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(71) Applicant: GENERAL ELECTRIC COMPANY
Schenectady, NY 12345 (US)

(72) Inventors:
 • Gonyou, Craig Alan
 Blanchester, Ohio 45107 (US)

- Shelton, Monty Lee
Loveland, Ohio 45140 (US)
- Doughty, Roger Lee
Cincinnati, Ohio 45252 (US)

(74) Representative: Pedder, James Cuthbert et al
London Patent Operation
General Electric International, Inc.
15 John Adam Street
London WC2N 6LU (GB)

(54) Cooling for turbine shroud segments

(57) A segmented turbine cooling component (130), such as shroud segment (130) for the high pressure and low pressure turbine sections of a gas turbine engine, useful in providing preferential cooling to the side rails or panels (214) of the turbine component (130) through the combination of cooling air fed into the intermediate pressure cavity (424) between the discourager and primary seals (404, 412) and then through recesses (282) in the bottom wall (256) of the lower discourager seal slot (242) that impinges air on the portion (448) of the side panel (214) below the discourager seal (404). The side panels (214) of the turbine component (130) have an upper primary seal slot (246) and a lower discourager seal slot (242) with a bottom wall (256) having a plurality of alternating lands (278) and recesses (282) along the length thereof and a plurality of cooling air passages

(286) having outlets (292) exiting into the lower slot (242) above the lands (278). The subassembly (400) can be formed from a plurality of such turbine components (130) where the spacing of the lands (278) and recesses (282) of the lower discourager slots (242) of the adjacent side panels (214) are staggered such that the lands (278) of the lower slot (242) of one adjacent panel (214) are opposite the recesses (282) of the lower slot (242) of the other adjacent side panel (214). This subassembly (400) also has primary and discourager seals (412, 404) received by the respective upper and lower slots (246, 242) that are positioned in the gap (402) between the adjacent panels (214) which define the intermediate pressure cavity (424) therebetween and the trench (420) below the discourager seal (404) that is purged by spent cooling air (446) from the recesses (282) in the lower slot (242).

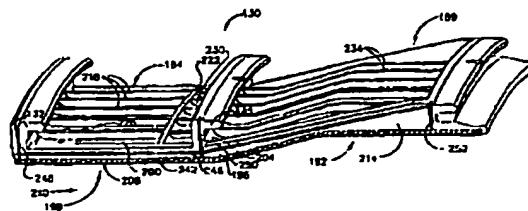


FIG. 2

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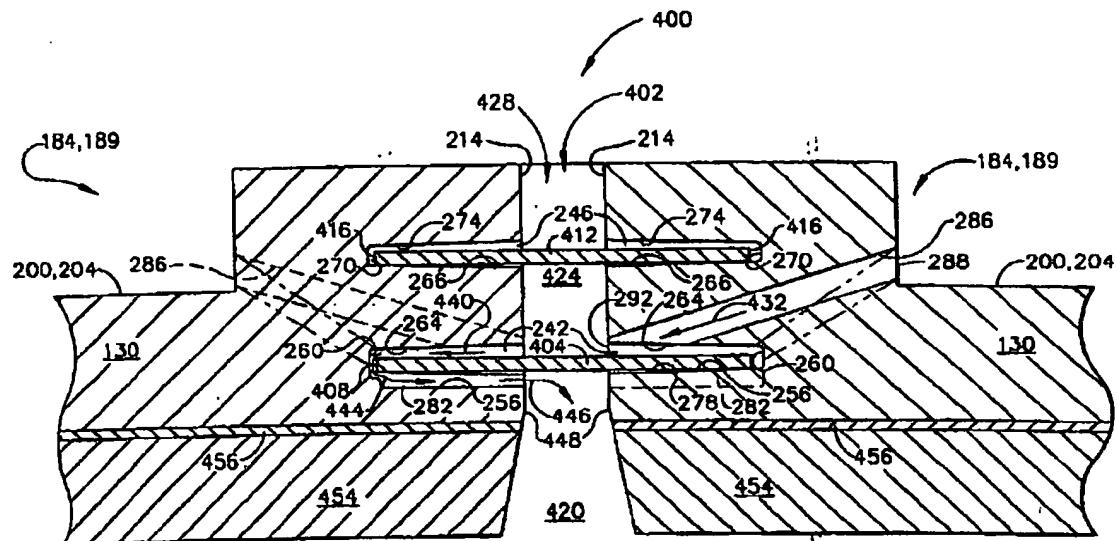


FIG. 10

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EUROPEAN SEARCH REPORT

Application Number
EP 01 30 3095

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<table border="1"> <tr> <td colspan="2">TECHNICAL FIELDS SEARCHED (Int.Cl.)</td> </tr> <tr> <td colspan="2">F01D F02C</td> </tr> </table>				TECHNICAL FIELDS SEARCHED (Int.Cl.)		F01D F02C			
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<p>The present search report has been drawn up for all claims</p> <table border="1"> <tr> <td>Place of search</td> <td>Date of completion of the search</td> <td>Examiner</td> </tr> <tr> <td>MUNICH</td> <td>18 November 2003</td> <td>Raspo, F</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	MUNICH	18 November 2003	Raspo, F
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EP 1 162 346 A3**ANNEX TO THE EUROPEAN SEARCH REPORT
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